Chapter Four

4. Preliminary Assessment/Site Inspection (PA/SI) and Site Closeout

The Preliminary Assessment/Site Inspection (PA/SI) phase of the Remedial Action Process evaluates all potential IR Program sites at an installation. PA/SI steps include: site discovery and notification, assessment and report preparation for all sites identified at the installation, and risk management analysis.

4.1 DISCOVERY AND NOTIFICATION

The Discovery and Notification step initiates the IR Program's processing of a newly discovered hazardous substance release or Hazardous waste site at an installation. Figure 4-1 summarizes elements of the Discovery and Notification step.

Discovery

Discovery occurs when a release is noticed (e.g., spill, leaking drum) or when the DON or a regulator locates a previously unknown Hazardous waste site (e.g., during unrelated field work or record searches). A decision is made as to whether the release requires further action.

Notification

It is the responsibility of the installation CO/CG to report releases of hazardous substances. Releases must be reported to EPA, the state, and relevant local authorities. 10 U.S.C. § 2705 (a) (2001). If the release exceeds a Reportable Quantity as enumerated in 40 C.F.R § 302.4 (2000), the installation must notify the National Response Center (1-800-424-8802) and State emergency response organizations. 40 C.F.R. § 302.6 (2000); 42 U.S.C. § 9603(a) (2001).

As part of planning and preparation for response to releases or spills on DON installations, the Navy and Marine Corps have designated officers to coordinate pollution contingency planning and direct DON oil and HS pollution efforts in predesignated areas. In the Navy, this officer, the Navy On Scene Coordinator (NOSC) is generally the REC. In the Marine Corps, the officer designated is usually the installation's Commanding General. See OPNAVINST 5090.1B CH-2 Chapter 1 and 10 (Sept. 9, 1999) or MCO P5090.2A, Chapter 11.

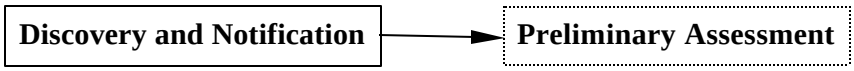
RPM Assignment

The cognizant EFD/EFA will assign a Remedial Project Manager (RPM) for a newly discovered site. The RPM will handle remediation, ensuring that action is taken to fulfill regulatory requirements.

4.2 PRELIMINARY ASSESSMENT (PA)

The purpose of a PA is to identify all sites on a contiguous property that need further action under the IR Program. A SI will be needed if the PA finds that human health or the environment is threatened.

Elements of the Discovery and Notification Step



Purpose	• Characterize release from available information • Report releases in excess of reportable quantity to the National Response Center, Governor of the State, and EPA Region (Installation Commanding Officer)
Potential Subsequent Actions	• Preliminary assessment • Removal
Tasks	• Determine appropriate response action
Documentation	• Contact reports • Correspondence
Additional Site Management Activities	• Notify National Response Center, Governor of the State, EPA Region, and regional Response Team (Installation Commanding Officer)
EPA/State Activities	• Enter site in Federal Agency Hazardous Waste Compliance Docket (EPA)

Figure 4-1: Elements of the Discovery and Notification Step

A PA is intended to be a relatively quick, low cost compilation of existing information about an installation. It assesses potential contaminant migration via four pathways (surface water, ground water, air or soil) and identifies potential targets (humans and resources that could be affected by such migration).

A PA is required for an installation not already on the Federal Facilities Docket if a HS release site is discovered, a HW site is discovered, or a person successfully petitions EPA for a PA.

Sampling is generally not conducted during a PA. However, sampling may be suggested when it could avoid the need for a SI (i.e., when a SI is justified, but is expected to find little threat). For additional information, see OPNAVINST 5090.1B CH-2 Paragraphs 15-3.18, 15-3.31, 15-4.1.1 (9 Sept. 1999) and MCO 5090.2A, Paragraph 14304.

Figure 4-2 summarizes the elements of the PA step.

Information Included in a PA

The types of installation information presented in a PA are dictated by the EPA data requirements. EPA uses the information in the PA to determine if the site should be listed on EPA's National Priorities List (NPL). The following are key types of information and resources for preparing the PA:

installation description (physical inspection, interview, maps);

evidence of releases (physical inspection, interviews, record searches);

site description and characterization (physical inspection, record searches, photo analysis, previous sampling or studies);

potential targets, e.g., drinking water wells & intakes, sensitive environments, populations;

HW generation, storage, and disposal, both past and present (interviews and record searches);

hydrology (literature searches, previous studies, Federal Emergency Management Agency flood maps);

hydrogeology (literature searches, previous studies);

soil (USDA soil survey, previous boring records);

regulatory actions, e.g., permits, inspections, violations, removals (interviews, record searches); and

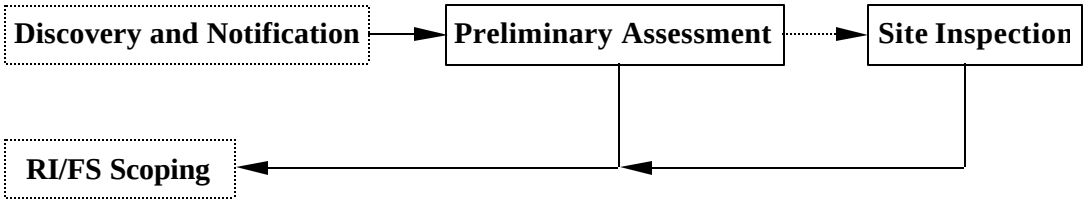
history of land use/ownership (interviews, record and literature searches).

An annotated bibliography should be provided in a PA to allow information to be easily located for review.

Assessment Included in a PA

Assessment of the collected information is presented in a PA to make a determination of whether further action is justified under the IR Program (e.g., Removal Action or SI). Factors to consider are the probability of release to a pathway, the probability that targets will be exposed, and the probable health risk due to exposure.

Elements of the Preliminary Assessment Step



Purpose	• Eliminate from further consideration those releases that pose neither threat nor potential threat to public health, welfare, or the environment • Determine source and nature of release, pathways of exposure, exposure targets, and threat to public health or welfare • Determine need for removal or remedial action
Potential Subsequent Actions	• No Further Action • Site Inspection • RI/FS • Removal
Tasks	• Records search • Photo interpretation • Interviews • Site visit
Documentation	• Preliminary Assessment Report (EFD/EFA or NFESC) • EPA Preliminary Assessment Form
Additional Site Management Activities	• Notify natural resources trustee if natural resources damage is expected (Installation)
EPA/State Activities	• Review Preliminary Assessment

Figure 4-2: Elements of the Preliminary Assessment Step

Performing PAs

EPA guidance on PAs is found in *Guidance for Performing Preliminary Assessments Under CERCLA (EPA/540/G-91/013, September 1991).* This guidance is intended for purely industrial facilities, and interpretations must be made when applying it to DON installations.

NFESC normally performs the Docket PAs (those initiated as a result of EPA listing an installation on the Docket).

NAVFAC has tasked NFESC with monitoring the Docket. NFESC tracks all installations with a PA and must be informed of all new DON PAs.

PA Disposition

NFESC or the servicing EFD/EFA will provide a draft of the PA to the installation Commanding Officer/ Commanding General for review. Following completion of the PA, the installation will send a copy of the PA to the Docket Coordinator at the EPA Regional Office.

EPA may request modifications or additional information or completion of a SI following review of the PA.

The RPM, in coordination with the installation, makes the decision whether newly discovered sites at installations with on-going IR Program work will be considered new sites or will be remediated as part of existing sites. To do this, the installation and the RPM will consider the following factors:

whether the origin and type of contaminant are similar;

how compatible investigation techniques are;

how integration would affect the cost, scheduling, and management of on-going activities;

how human health and environment would be impacted; and

how regulators might react.

The PA may result in one of the following outcomes.

NFA - If no significant threats are identified, an NFA response would be taken unless the regulators present compelling reasons to continue actions at the site;

SI - If the DON identifies sites that need further investigation, the SI is normally the next step;

RI/FS - If the DON determines that a site needs to be remediated, the SI can be skipped and the site can go directly to RI/FS; and

RA - If the threat is imminent and in-place control is impractical, the contamination may have to be physically removed immediately.

4.3 SITE INSPECTION (SI)

The NCP defines a SI as "...an on-site investigation to determine whether there is a release or potential release and the nature of the associated threats."

40 C.F.R. § 300.410 (2000). The cognizant EFD/EFA will conduct the SI when the PA recommends further investigation. The SI may be considered as an optional step dependent upon the PA recommendations.

The objective of the SI is to augment the data collected in the PA in order to generate sampling and other field data to determine if further action or investigation is appropriate, and identify which sites have a high probability of listing in the NPL. Prior to conducting field sampling as a part of the SI, a Sampling and Analysis Plan (SAP) should be developed. A second objective of the SI is to identify sites posing immediate health or environmental threats, which require emergency responses.

The SI can be conducted in one or two phases. Often the SI can be structured to test the critical PA conclusions that resulted in the recommendation for a SI; the information developed may be sufficient for the DON to determine either that NFA is necessary or that it is likely to score high enough on the EPA's Hazard Ranking System (HRS) to be considered for NPL listing.

Two Phases of the SI

The first phase conducted in the SI process is the Screening Site Inspection (SSI). The screening exercise can determine whether an expanded effort is cost- effective and warranted. The overall objective of the SSI is to provide information to support a recommendation that a site should either go on to Listing Site Inspection (LSI) or be considered for a NFA decision.

The LSI is the second phase of the SI. It is a more comprehensive field sampling, analysis, and data gathering exercise. The LSI uses the results of the SSI as a basis to determine if more detailed delineation of the amounts and potential migration of the hazardous waste is warranted.

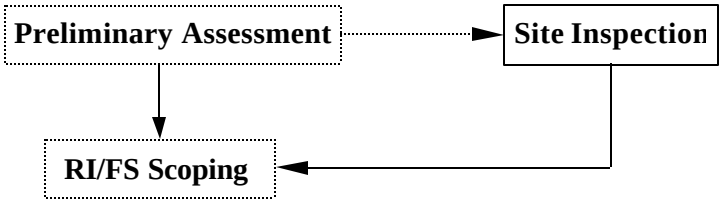
The preparation of the SI report requires that sufficient information be collected to define present and past site waste operations and site conditions resulting from waste operations. The results documented in the report should at a minimum define the source and nature of the release, and provide conclusions whether NFA, removal, or an RI/FS is warranted.

The documents used and reviewed in carrying out the SI should be referenced or enclosed as a part of the SI report. Documentation of the background information is critical for a NFA decision or to substantiate the recommended action to be followed after the SI. The elements of the SI step are summarized in Figure 4-3. In addition, for clarification, the LSI will be hereinafter referred to as the SI.

4.4 RISK MANAGEMENT PROCESS

"Environmental risk" can be defined as the potential or likelihood of injury, disease, or death resulting from human exposure to an actual or potential environmental threat. Risk management involves establishing an acceptable range of risk concerning the level of remedial action required at a site, and weighing the feasibility and cost of achieving various levels of risk.

Elements of the Site Inspection Step



Purpose	• Eliminate from further consideration those releases that pose neither threat nor potential threat to public health, welfare, or the environment • Collect data to characterize the release for effective rapid initiation of RI/FS • Determine need for removal and/or remedial action
Potential Subsequent Actions	• No Further Action • RI/FS • Removal • Monitoring
Tasks	• Prepare Work Plan, Sampling and Analysis Plan, and Worker Health and Safety Plan • Sample soils, sediments, groundwater, surface water as appropriate
Documentation	• Work Plan, Sampling and Analysis Plan, and Worker Health and Safety Plan • Site Inspection Report • HRS Scoring Package
Additional Site Management Activities	• Installation submits SI Report and HRS Scoring Package to EPA and the State within 30 days of receipt from EFD/EFA • Comment on EPA proposal to include site on NPL
EPA/State Activities	• HRS Scoring • HRS Quality Assurance/Quality Control • NPL Proposal • NPL Listing

Figure 4-3: Elements of the Site Inspection Step

The conclusions and recommendations of the SI report is based on an assessment of the risk posed by contaminants on the site. Methods of risk management such as engineering judgment and non-DoD models are valid tools and should be used, as appropriate, to evaluate risk and set priorities.

Risk management factors that must be considered include the site's relative risk, legal agreements, military readiness, stakeholders concerns, packaging sites for cost-effective contracting, regional distribution of work load, and use of innovative cleanup technologies.

Stakeholders and regulators will be participants in discussions concerning risk management factors used to determine the order and timing of project execution.

4.4.1 Relative Risk Site Evaluation

The DON Cleanup Program uses risk management as the primary philosophy in programming, budgeting, and executing the program. DoD policy now stipulates that work sequencing should be reviewed on an annual basis using risk as a key factor.

DoD has developed a Relative Risk Site Evaluation framework as a means of categorizing sites in the IR Program. Relative risk results in the grouping of sites or areas of concern (AOCs) into High, Medium, and Low categories based on the following three key factors affecting groundwater, surface water and sediment, and surface soils:

Contaminant Hazard Factor (CHF) - is based on the ratio of the maximum concentration of a contaminant detected in an environmental medium to a risk-based comparison value for that contaminant in that medium. Detected contamination must be recent yet representative of site conditions.

Migration Pathway Factor - a measure of the movement or potential movement of contamination away from the original source; and

Receptor Factor - an indication of the potential for human or ecological contact with site contaminants.

The Relative Risk Site Evaluation will assist in sequencing future work within the IR Program. It is a conceptual tool whose goal is to ensure that the DON first considers sites with higher relative risk in the priority setting process. A Relative Risk Site Evaluation is not a substitute for either a Baseline Risk Assessment or health assessment, nor is it a means of placing sites into a NFA category.

<u>When is a Relative Risk Site Evaluation Required?</u>

Relative Risk Site Evaluations are required for hazardous and petroleum waste sites and AOCs in the IR Program. The evaluation at a site should be based on currently available information on contaminants, migration pathways, and receptors.

Sites or AOCs lacking sufficient information for the conduct of the evaluation should be given a "Not Evaluated" designation and should then be programmed to have sampling accomplished, as soon as possible, to

complete the Relative Risk Site Evaluation. Site assessment work required to determine the relative risk of hazardous/ petroleum waste sites should be programmed as a Program Management and Support expense in accordance with Section 8.4.1 of this Manual.

Sites and AOCs with ordnance are evaluated in using a separate risk procedure. They are not subject to the Relative Risk Site Evaluation.

4.5 SITE SAMPLING

The SI phase provides the first opportunity to generate detailed site characterization data by collecting and analyzing samples. The SI consists of a visual inspection of the site and usually includes sample collection and analysis. The information may come from both on-site and off-site samples to determine the presence and nature of potential contamination in the soil, groundwater, surface water, and air. The objective of the SI sampling effort is to verify the presence of contamination, not to determine the extent of contamination. However, during each phase of the program, a sampling strategy should be developed after project objectives have been defined, and before the Statement of Work or contract is issued. This strategy will ensure that the appropriate data will be collected to make decisions supporting project objectives. Additional sampling objectives include:

Determining regulatory compliance;

Obtaining data for risk assessment;

Providing design information for remediation; or

Proving the effectiveness of remediation.

Evaluation of existing data and information enables the RPM to define the sampling strategy. The results of initial sampling, such as those developed by the SI, should provide information to decide whether additional characterization of the site is necessary or whether a NFA decision is appropriate.

On-Site Sampling

On-site sampling should determine the nature of any disposed or stored wastes (source identification). Additionally, appropriate soil, air, groundwater, surface water, and sediment samples should be collected in the vicinity of any suspected source and along expected migration pathways to determine the existence of contamination.

Off-Site Sampling

Off-site sampling should be carried out to determine the possible contamination of any off-site receptors due to waste disposed of or stored on the site. Off-site sampling may consist of air, soil, groundwater, surface water, sediment samples, vegetation, and food chain organism samples.

Off-Site Surveys

Off-site surveys, which may include off-base areas, should be conducted to assess the population, land use, and operation that may be affected by site operations and conditions. These surveys should identify adjacent land ownership, land use, water supplies, waste disposal practices, and potential

receptors of any wastes that may migrate off the site.

4.5.1 Sampling and Analysis Plan (SAP)

A SAP will be developed during the SI phase. It contains the Field Sampling Plan and the Quality Assurance Project Plan as described below:

Field Sampling Plan (FSP)

The FSP describes the number, type, and location of samples; the types of analyses; and decontamination procedures. It also identifies the personnel to perform each task. The plan should be based on the types of hazardous materials expected and their potential off-site migration routes. Suggested elements to be included in an FSP are given in Table 4-1.

Quality Assurance Project Plan (QAPP)

The QAPP presents the policies, organization, objectives, functional activities, and specific quality assurance (QA) and quality control (QC) activities to ensure the validity of analytical data generated during project execution. For additional information concerning QAPPs, see section 5.4.1 of this manual.

4.6 DATA QUALITY OBJECTIVES (DQO)

DQOs are an important aspect of quality assurance for the IR Program process from collecting and analyzing samples to data processing and reporting. DQOs are statements that provide critical definitions of the confidence required in drawing conclusions from the project data. These objectives will determine the degree of total variability (uncertainty or error) that can be tolerated in the data. Limits of variability must be incorporated into the SAP and are achieved by using a detailed sampling and analysis protocol. Desired DQOs must be balanced against the cost of sampling and analysis, and realistic objectives must be established with the concurrence of the data users. Three factors that most influence the cost of sampling are site location and accessibility to sampling points; the number, kind, complexity, and size of samples to be collected; and the frequency of sampling. The extent to which these factors will influence cost depends on the particular aspects of each sampling project.

DQOs are the full set of constraints needed to design a study including a specification of the level of uncertainty that a data user is willing to accept in the decision. The DQO process includes specifying the limits on decision errors thus defining the data quality. The DON develops DQOs using a process that encourages the sequential consideration of relevant issues. The principal stages in the DQO process result in an important criterion or product for the study that describes the following:

The problem to be resolved at the site;

The decision needed to resolve the problem;

The inputs to the decision;

The boundaries of the study;

The decision rule; and

The uncertainty constraints.

Suggested Format For Field Sampling Plan

1. Site Background
2. Sampling Objectives
    - Sample location
    - Sample purpose/data quality objective (DQO)
3. Location, Designation, and Frequency of Samples
    - Project
    - Quality Assurance/Quality Control (QA/QC)
4. Sampling Equipment and Procedures
    - Equipment
    - Decontamination
    - Sample Taking
    - Waste Handling
5. Sampling Handling and Analysis

Table 4-1: Suggested Format For Field Sampling Plan

Data quality management ensures that usable data is developed to provide a basis for evaluating the performance of remedial actions. It should be effective in determining how much and what quality of data are needed and to identify the intended uses of historical sampling data, e.g., site characterization, risk assessment, engineering design, so the data can be used to support subsequent remediation phase operations. Such data reviews should be in concurrence with EPA guidance documents *"Data Quality Objectives for Remedial Response Actions", "Guidance for the Data Quality Objectives Process", EPA QA/G-4; and "Guidance for Data Quality Assessment",* EPA QA/G-9.

RPMs should ensure that contractors follow EPA's DQO Process. This will provide focused, cost-effective investigations - DQOs should be implemented prior to commencing SI activities - and remedial designs geared toward the particular features and requirements of the specific site and yield scientifically defensible data.

For additional DQO information, see the Uniform Resource Locator for the Department of Energy DQO Home Page at:
http://terrassa.pnl.gov:2080/DQO/home.html

4.7 SITE CLOSEOUT

The goal of the IR Program is to achieve environmentally protective site closeouts at least cost. Site Closeout means that the DON has completed active management and monitoring at a site. No additional funds are expected to be expended at the site. Site closeouts are initiated when the DON determines that NFA is appropriate at a site.

The site is considered "closed out" when regulatory agency concurrence is obtained or when the DON documents formal requests for regulatory comment and no response has been received within a reasonable time, when all reporting and document handling requirements are met, and when NPL de-listing (if applicable) has occurred.

The decision to closeout a site can be made at any point in the IR Program process if the DON and regulators concur on the NFA designation. The DON RPM will be responsible for preparing and submitting the site closeout documentation, which may include Remedial Action Reports and Final Closeout Reports. The DON RPM is also responsible for documenting, in the Administrative Record, the EPA or State concurrence with the NFA designation. The EPA RPM will have responsibility for documentation related to NPL de-listing including preparation of the Deletion Docket, the Notice of Intent to delete, and the Notice of Deletion.

For more information about Site Closeout, reference the DoD/EPA guidance document *"The Environmental Site Closeout Process Guide"*. This document can be downloaded from:
http://www.afbca.hq.af.mil/closeout
In addition, the Civil Engineer Corps Officers School (CECOS) offers training on Site Closeout issues.

4.7.1 National Priorities List (NPL) De-listing

The National Contingency Plan identifies actions that must be completed and procedures that must be followed to de-list a site from the NPL, 40 C.F.R. § 300.425(e). Sites may be deleted from the NPL when no further response is appropriate. Response actions and procedures as they relate to the de-listing of DON sites include:

The cognizant EFD/EFA will notify the EPA regional office that appropriate response actions have been taken and completed and request that the site be deleted from the NPL;

EPA will consult with the State prior to developing the notice of intent to delete. EPA will consider, in consultation with the State, whether:

- The DON or any other responsible party has implemented all appropriate, required response actions;

- No further response action by the DON or other responsible party is appropriate; or

- The Remedial Investigation has shown that the release poses no significant threat to public health or the environment and no further remedial action is appropriate;

The State in which the release was located must concur with the proposed deletion before the site will be deleted from the NPL. EPA provides the State 30 working days for review of the deletion notice prior to its publication in the *Federal Register*;

The site will be restored to the NPL without application of the HRS whenever there is a significant release from the site;

EPA, to ensure public involvement, will:

- Publish a notice of intent to delete the site from the NPL in the Federal Register and solicit comment through a 30-day public comment period;

- Publish a notice of intent to delete in a major local newspaper of general circulation at or near the proposed site to be deleted;

- Provide the DON with copies of information supporting the proposed site deletion for placement in the information repository at or near the proposed site to be deleted; and

- Coordinate with the DON and respond to each significant comment and any significant new data submitted during the comment period, and include those responses and documents in the final deletion package.

EPA will provide the DON with the final deletion package for placement in the local information repository once the notice of final deletion has been published in the *Federal Register*.

The DON designates sites that EPA has delisted as either response complete, or site closed out, and ultimately as an NFA site. The site may again become an active site if it is subsequently determined that contaminants still exist at the site.

4.7.2 Non-NPL Sites

Site Closeout at Non-NPL sites requires the following actions by the EFD/EFA or the installation:

EFD/EFA:

Prepare documentation that shows that the DON has implemented all appropriate, required response actions and NFA by the DON is appropriate;

Designate the site or group of sites for which response actions have been taken/completed as NFA; and

Notify the EPA regional office and the State that appropriate response actions have been taken/ completed.

Installation:

Ensure public notification by:

Placing the documentation to support the NFA status in the information repository at or near the site; and

Publishing a notice in a major local newspaper of general circulation to inform the public that documentation to support the NFA status is available in the information repository.